

DETECTION OF MOVEMENT OF TERMITES IN WOOD BY ACOUSTIC EMISSION TECHNIQUES

Abstract of the Disclosure

Acoustic emission apparatus methods for detecting termite infestation including a probe and signal processing circuitry. The probe includes an piezoelectric transducer and is adapted to be inserted into a bore-hole of the wood under test. The waveguide intersects the high frequency extensional and shear waves produced by feeding and movement of termite propagating along the grain of the wood.

The transducer output signal is filtered through high (HF) and low (LF) bandbase filters. Selected HF/LF values produce a signal which substantially eliminates extraneous Out-Of-Plane acoustic noise. One embodiment includes a multiple channel multiplexing system for monitoring insect treatment processes in structures such as homes and other buildings. The real time data is used to determine the effectiveness of treatments as well as the time required to produce an effective treatment for termite eradication.

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